Chest. 2005;128:1968-1973.)

Asthma Quality-of-Care Markers Using Administrative Data*

Michael Schatz, MD, MS, FCCP; Randy Nakahiro, PharmD; William Crawford, MD; Guillermo Mendoza, MD; David Mosen, MPH, PhD and Thomas B. Stibolt, MD, FCCP

* From the Department of Allergy (Drs. Schatz, Crawford, and Mendoza), Pharmacy Analytical Services (Dr. Nakahiro), and Care Management Institute (Drs. Mosen and Stibolt), Kaiser-Permanente Medical Center, San Diego, Los Angeles, and Oakland, CA.

Correspondence to: Michael Schatz, MD, MS, FCCP, Department of Allergy, Kaiser-Permanente Medical Center, 7060 Clairemont Mesa Blvd, San Diego, CA 92111; e-mail: michael.x.schatz@kp.org

Study objective: To evaluate the relationship of potential asthma quality-of-care markers to subsequent emergency hospital care.

Design: Retrospective administrative database analysis.

Setting: Managed care organization.

Patients: Asthmatic patients aged 5 to 56 years of age.

Interventions: None.

Measurements and results: Candidate quality measures included one or more or four or more controller medication canisters, a controller/total asthma medication ratio of 0.3 or 0.5, and the dispensing of fewer than six ß-agonist canisters in 2002. Outcome was a 2003 asthma emergency department visit or hospitalization. Multivariable analyses adjusted for age, sex, and year 2002 severity (based on utilization). In the total sample (n = 109,774), one or more controllers (odds ratio, 1.35) and four or more controllers (odds ratio, 1.98) were associated with an increased risk of emergency hospital care, whereas a controller/total asthma medication ratio of 0.5 (odds ratio, 0.73) and the dispensing of fewer than six ß-agonist canisters

(odds ratio 0.30) were associated with a decreased risk. After adjustment for baseline severity in the total asthma sample, the controller/total asthma medication ratio (odds ratio, 0.62 to 0.78) and ß-agonist measure (odds ratio, 0.42) were associated with decreased risk, whereas the dispensing of four or more canisters of controller medication was associated with increased risk (odds ratio, 1.33). After stratification by year 2002 ß-agonist use, all of the measures were associated with decreased risk in those who received fewer than six ß-agonist canisters, whereas all of the measures except the medication ratio of 0.5 were associated with increased risk in the cohort who received six or more ß-agonist canisters.

Conclusion: Controller use and ß-agonist use may function as severity indicators in large populations rather than as asthma quality-of-care markers. A medication ratio of 0.5 appeared to function as the best quality-of-care marker in this study.

Key Words: asthma emergency department visits • asthma hospitalizations • asthma medication • asthma quality measures • population management